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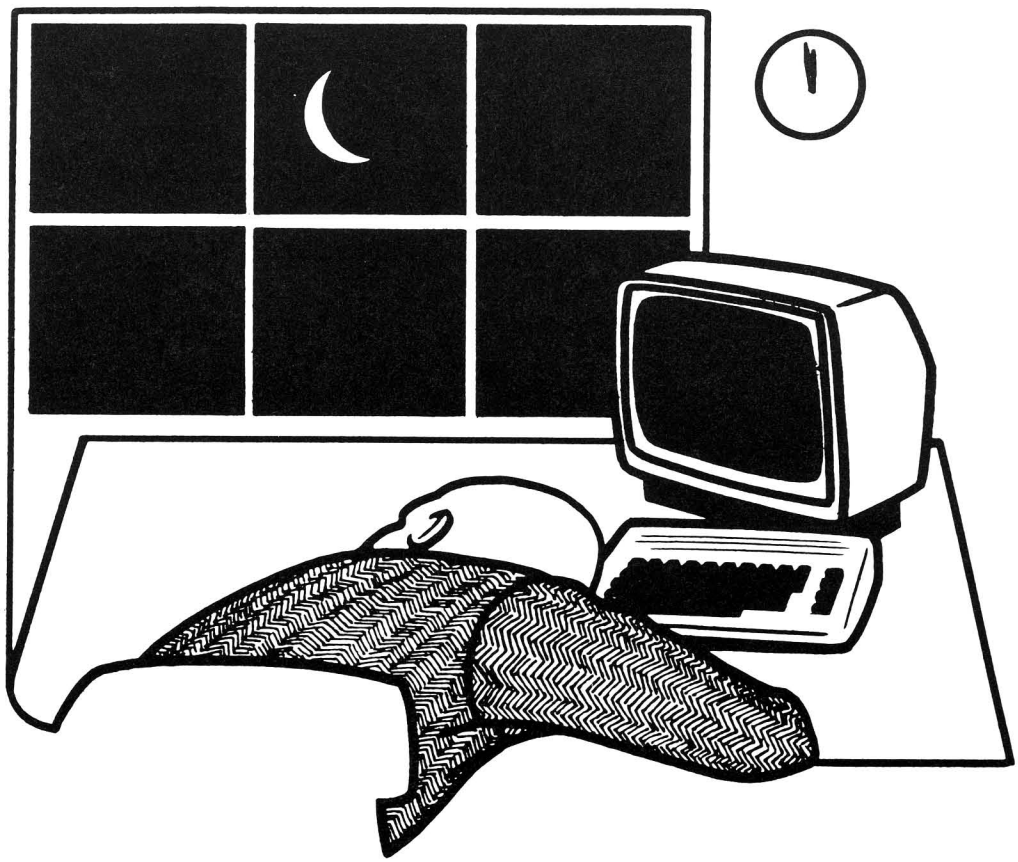
Midnite Software Gazette

The First Independent U.S. Magazine for users of Commodore brand computers.

Includes The PAPER



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C-64™ • VIC™ • SX-64™ • C-128™ • Plus 4™ • C-16™ • B-128™ • PET™ • CBM™ • LCD™

The best deal in Commodore computing just got better.

The Intelligent Software package: an integrated home/business/educational package of **25 programs** on disk or tape at the ridiculous price of **$29.95** (plus five cents for postage + handling).

The package is not public domain or home-brew software; totaling over 51 pages of source code listings, it is the one product that can take care of all your data processing needs. One customer writes: ". . . *accolades for the authors. This is as slick a deal as I have seen and more than adequate for all except fancy presentations. The best thing is the ease of use* . . " The package includes:

Database: A complete multi-keyed fixed-record-length data base manager. Sort or select [using all relational operators: , = , >, <, AND, OR, NOT, wild card] on any field, perform computations on numeric fields. Any operation can be performed on all, or only selected records. All fields completely user-definable. Can be used for any number of tasks, including accounting, mailing lists, inventory control, record, tape, or book cataloging, expense account maintenance, or as an electronic rolodex. Even if you use your Commodore for nothing else, this program alone might justify its expense.

Word Processor: A full-featured menu-driven word processor including: very fast file commands, screen editing, text locating and full control over margins, spacing, paging, indentation, and justification. " . . . *well done and highly functional . . . Provides an excellent alternative to the high priced word processors . . . this is an excellent buy. Highly recommended.*" — Midnite Software Gazette. "*Provides good basic features.*" — Compute's Gazette.

Copycalc: An electronic spreadsheet. Turns your Commodore into a visible balance sheet; includes screen editor. "*Excellent program for budgeting, estimating, or any math-oriented use . . . well. worth the money. Highly recommended.*" — Midnite Software Gazette.

Also included: **ReportGen, ReportMerge** [interface W/P with Database to create form letters, statements, invoices, mailing labels, other reports.]; **Baseball Statistician** [compiles batting statistics for a baseball league]; several W/P utilities, including **Index** [indexes W/P's text files]; several Database utilities, including **DBmerge** [facilitates multi-file database applications.], and **DBStat** [analyzes D/B files]; a programming utility, **ASCII,** which converts text files [program listings] into program files; also **Checkbook**; **Inventory**; **Paper Route**; **Loan Analysis**; **Breakeven Analysis**; **Depreciation**; **Labeler**; **File Copier**; more.

Versions of the package are available for every Commodore computer having a minimum of 10k RAM. All programs will support tape, disk, and printer. Price includes documentation and shipping; Calif. residents add 6%. Add $3 for credit card, COD, 8050 disk, or cassette orders [cassette not available for Plus4™ and 16™.] No personal checks from outside USA. This ad is the catalog; a sampling of program output is available for $2.

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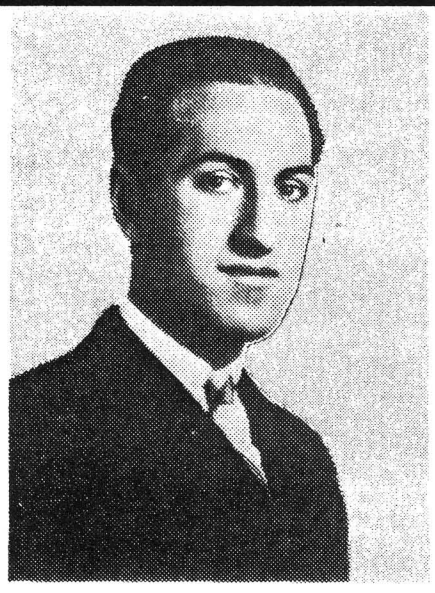
Last Night, George Gershwin played my Casio*....

through the miracle of home computers and QRS Music. Now it's possible to turn your home computer into an entertainment center and music education machine. Just add our $49.95 MIDI and any MIDI instrument.**



The appearance of the MIDI on home organs and synthesizers opens up a whole new future for music. QRS Player Piano Rolls from 1900 to present day were performed by late great artists from Scott Joplin, Fats Waller, and George Gershwin to contemporary artists like Liberace, Peter Nero, and others. The QRS library (which spans over 85 years and contains over 10,000 songs) is being converted to floppy disk that are available for popular microcomputers.

THE COMMODORE 64 and 128, plus the APPLE IIc packages are now available for only $49.95. This includes a MIDI interface and a six song sample disk with CLASSICAL, CONTEMPORARY, SHOW MUSIC, and even RHAPSODY IN BLUE played by the composer GEORGE GERSHWIN in 1927. All you need is a MIDI equipped instrument**, the MIDI MAGIC interface, and your computer. For information about other supported computers, the QRS Music Disk Catalog, other MIDI products, and CASIO MIDI instruments, call or write:

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**For best results an eight voice polyphonic instrument is recommended. QRS Music disks will also operate with the Passport MIDI Interfaces for the Commodore and Apple II + and Apple IIe.

WINTER CONSUMER ELECTRONICS SHOW

The Winter Consumer Electronics Show was held at the Las Vegas Convention Center in the Hilton Hotel from January 9th through 12th. Show attendance reached over 100,000. I always look forward to this show, not only because of where it's at, but because I'm a gadget nut. Especially if it requires electric propulsion of some kind.

Although the audio, video, and satellite exhibits were doing a vigorous business, the microcomputer related companies were few and far between. Normally, West Hall of the Convention Center is reserved, and full, of personal computing booths. Not so this year; less than half of the hall had computer stuff while the other half was occupied by satellite dishes. The main hall (where Commodore usually has their booth) had only a token spattering of computer related material. Most computer reporters covering Commodore were concerned whether the money invested in the Amiga can pull Commodore out of the red. Personally, I feel 1986 will determine whether or not Commodore can pull themselves out of their current situation. All the personnel turnovers, the lemon machines, the misdirection in marketing, the inability to deal with independent computer stores--maybe they can put it back together again.

Atari and Commodore exchanged roles this year. Gone was Commodore's blue and grey slick booth. The only way you could see a Commodore 64, Commodore 128, or Amiga hardware was at the third party vendor's booths. Also gone and VERY forgotten were the mess of MSX machines from Japan. I could only find two or three software companys that even had some (and they were from France). Atari's booth was well designed and crowded during the entire show.

While touring the Atari booth, I saw an Amiga employee/programmer escorted out by an Atari Corporation exectutive. Seems he was of different opinion of Atari's comparative presentations of the famous checkered bouncing ball on the ST and the Amiga. He was politely told that they (Atari Corp.) didn't like him selling (I personally doubt that he was selling) in their booth and was asked to leave. I wonder what would have happened if Trameil had had his normal arsenal of armed guards at the Atari booth.

Hardware trends: The Commodore 64 will probably be sold in a new case, similar to the Commodore 128 machine. We will see the RAM expansion released for the Commodore 128. The mouse will be released soon, but not the one you are accustomed to seeing in the Commodore ads. An inexpensive 5 or 10 meg HARD Drive for your Commodore 64 or Commodore 128 will be arriving soon from Cardco. I feel there is a strong market for this piece of hardware, especially at a reported price of LESS than 600 dollars. Printer interface prices are going to continue to drop, even with advanced features. The new rash of Commodore compatible printers from Gemini, Epson, Blue Chip, et. al., are not living up to their maker's hype.

I haven't tinkered with the Amiga as much as I thought I would. Not that it's not a super machine, but if all I can do is tinker with

demos and a few games it doesn't do me much good in publishing articles and such. When I see software that I can use...then you'll be seeing me touting its virtues. The trends these days to compare the ST and Amiga, I feel, are over exaggerated. I look at them together as I would if we were comparing Atari 2600s to VIC-20s (sarcastic overtones here). Really though, the Atari ST is a nice machine. But the buying public looks at their neighbor's computer, news reports and mag articles, hearsay, personal financial status and (more so now than in the past) computer company reputation. I will not relinquish the feeling that Trameil will fail at Atari. I can't help it. Knowing many of the people Commodore dealt with during his/Commodore's heyday, and his business practices, I feel nearly all he has done has been for short term gain. It's only a matter of time before it catches up to you. That's an opinion I've formed after watching Commodore for over eight years. Check 'Publishers Remarks' in the Oct/Nov '84 issue and see who was the first to predict Trameil leaving. But Arnie Lee, one of the true pioneers in the Commodore world and whom I respect for what he has accomplished, feels Atari will be around for quite awhile.

Look to see alot of software to come from Europe in the next two to three months. The ones to watch: Radarsoft (you've seen their ads in the majors) and ERE from France, as well as software from West Germany (Abacus, Skyles, and Micro-PACE all have software from there now), Belgium, Netherlands, England, and Australia. I got a few copies of some great graphic and adventure games from ERE. Radarsoft also exhibited some exciting (and well done) software for the Commodore 64 including games and a batch of utilities for the Commodore 64 and Commodore 128. They will arrive on dealer's shelves at very competitive prices. Maybe not as inexpensive as Mastertronics software from Britain, but close enough to help drive down those $39.95 to $49.95 software prices.

Timeworks has taken their excellent spreadsheet, 'SwiftCalc,' to new heights. New versions include graphics from 3D bar graphs to pie charts, and all can be dumped to your popular printer. I use Swiftcalc about every other day and I'm DEFINITELY sending in for a up-grade.

Personal tools in the vein of Borland's Sidekick, but for the Commodore 128 and Commodore 64, are on the way. These programs are NEEDED in the Commodore community. Their features will include on-line calculators, multiple data base management systems, alarm clocks, note pads, and calendars with appointment books. Some will offer telecommunications capabilities. Cardco's program and Timeworks 'Partner 128' are only the first that will come to market and both look excellent.

Abacus was showing a great circuit design system for the Atari ST. Nearly all their new products (except the new Commodore 128 books) are being released for the Atari ST.

Sublogic Corp. was showing their Amiga Flight Simulator II. It looked GREAT! Also being shown on the C-64 was an excellent football game that Quest Inc. (from Super Bowl Sunday fame) and Sublogic will jointly release soon. More and more as this market moves along you see smaller software houses turning to larger companies that have a much

better channel to distribution.

Access showed a couple of interesting new products. They are going to market an 'electronic erector set' called MultiBots that connects to your C-64 and C-128 user port. Modular connectors with gears, motors, and such (also an optional digitized speech module) allow youngsters to do experiment with 'real-world' conditions, robotics and semi-artificial intelligence. But at a retail of $99.95 I wouldn't expect to see alot of them at your kid's next science fair. A golf game titled 'Leader Board' looked great. People three deep were waiting to play the program. The screen shows a graphic human as you look out, in 3D perspective, at the hole you are playing. I predict it will outsell all other golf simulations on the market. It's that good. Access also has a very good question and answer human anatomy program called 'Inside Story.' My youngest son, Jason, age seven, continuously uses a similar program from Nanosec. Both these programs feature well detailed Doodle graphics. Probably important to most parents is that they both are in good taste.

Activision had a booth but no computers. Normally they have MANY machines for play-testing. Infocom and EPYX were also absent from the show. Grolier Electronic Publishing exhibited their Encyclopedia on a laser disc. Their $1495 complete (yes, the decimal is in the right place) setup price for a PC is truly an electronic marvel. No lines were forming for purchases, but when I see a C-64 version at a considerable price reduction, I'll be the first to line-up.

I'm sure I haven't covered everything I saw at the show. I'll have to wait till next issue to continue. I will also be giving a report on 'WORLD OF COMMODORE III' held in Toronto and The 'WEST COAST Commodore FAIR II' being held at San Francisco.

Lest I run out of room, a final note on CES: I truly enjoy seeing old friends and making new ones at these shows. It was good to see you Ed, Roy, Gunter, 'John Henry', Bruce, Stu, Cathy, Deb, Ben, Randy, Bill, Donna, Leonardo, Diane, and a blackjack dealer named Jimmy...

SUPER KIT/1541

By

Marty Franz & Joe Peter

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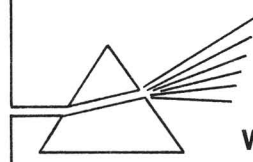
- Track & Sector Editor
  Full editing of t&s in hex, dec, ascii, bin. Includes monitor/disassembler with printout commands.
- GCR Editor
  Yes disk fans a full blown sector by sector or track by track GCR Editor.
- Super DOS I
  Fast boot for SUPER DOS. 150 blks in 10.12 seconds.
- Super DOS II
  Screen on and still loads 150 in 14.87 seconds.
- Super Nibbler
  Quite frankly if it can be copied on a 1541 this will do it! Including Abacus, Timeworks, Accolayde, Epyx, Activision, Electronic Arts.
- M/C & Visa
  $29.95 + $3.00 s/h $5.00 cod.



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Waco, Texas 76710
(817) 757-4031

THE COMMODORE 128 MODE:AN INSIDE VIEW: $14.95 book by Isaac Malitz & Linda Edwards from Microcomscribe.

This is the first C-128 book I've read and I was very pleased with its coverage. The authors do a very good job of delivering their message in a simple fashion. This book should be very popular to the 'not-so-technical' user that wants to get a basic understanding of memory banking or the memory map. Hardcore hackers users will be bored with its simplistic approach. The 'Snoop' program included, which dumps memory locations to the screen, is worth half of the book's price. As far as I'm concerned, this is a high quality publication for the less technical user. Recommended. Mike Stout

THE COMMODORE 64 COMPUTER WORKOUT: $2.95 book by Jim Keogh, from Hayden.

A collection of computer crossword puzzles and word games that should keep any 8-10 year old busy. This book contains many useful programming tips and combines fun with education, the kind of thing that all parents should be thankful for. Recommended. Mike Stout

TRICKS & TIPS: $20 book by Weltner, Hornig & Trap, from Abacus.

This book covers almost every aspect of the 128 including graphics, memory locations and much more. Several good little utility program listings complement the tutorial style text. I found Tricks & Tips to be just one more of the fine items that Abacus sells to the Commdore user! Recommended Mike Stout

I SPEAK BASIC TO MY COMMODRE 64: $9.95 book by Aubrey Jones, from Hayden.

This book is a collection of excercises in Basic programming intended to teach the reader step by step. Beginning Commodore 64 users might consider this book for learning Basic, but check around because each month we see more and more of these tutorials. The best way to learn programming is in the classroom; if you don't have that luxury available, a book like this will get you off of the ground. Average. Mike Stout

Algorithms: $14.95 book by Dave MacCormack & Toni Michael from MicroComScribe.

An algorithm is a set of instructions that performs a single task. An algorithm for tying your shoe, for instance, might look like this:

(1) Grab both shoelaces.

(2) Cross the right lace over the left, etc.

This book contains many such algorithms. There are string algorithms (padding, centering, etc.), financial algorithms, math routines, and algorithms for graphics and data base management. Each given routine is presented in a sort of psuedo code quite a bit like COMAL or other structured language, and/or as a Basic routine. Each line of each routine is explained quite thoroughly, but some of the more complex routines left me scratching my head. All in all a good book with a nice feature of showing examples with no specific computer language in mind. Recommended. Steve McNamara

Taking Care of Business with Your Commodore 64: $14.95 book by David P. Dautennhahn

This book is a collection of more than 100 small basic sub-routines that perform calculations for real estate, loans or other financial purposes. The routines are small and are designed to be added to your basic programs. Routines include: loan analysis, savings, real estate, lease analysis, stocks and bonds analysis, and retailing analysis. I really liked having this book around. It does contain many useful and interesting basic routines. The book is more of a statistics book than a programming book but you can convert the calculations to any language.
Recommended. Steve McNamara.

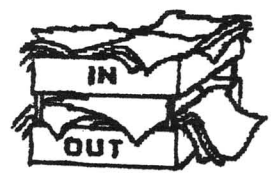
RUN SPECIAL ISSUE #2 $3.95 from CW Communication/Peterborough, Inc.

Commodore users will never find a better bargain than Run's Special Issue that came out last month! This issue is packed with over 500 hints and tips from Lou Sander's Magic column. I've never found any publication that has as much information about our Commodore hobby. The issue covers the VIC-20, 16, +4, 64, and the 128. Users will find tips about programming, hardware, software, telecommunications and much more.

Also with this issue, you'll get a C-64 & C-128 Programmer's Reference Guide for your wall. It has those hard to remember disk commands, screen display codes, sound & sprite commands & so much more. A very good value and a must for all serious users! Mike Stout

BUTTERFIELD COMMODORE REFERENCE DIARY $5.95 pocket calendar and reference for CBM machines. By Jim Butterfield, from Pitman Publishing.

Lost? Whether it be in the middle of your VIC, C64, C128 B, C128 PC, Plus /4, or the London Underground, this pocket reference diary can help. The weekly diary takes only half the pocket-size book. The rest of it is devoted to descriptions, technical information, memory maps, useful peeks, pokes, and programs for almost all of Commodore's machines. An overview of Basic, sound, disk commands, disk formats, assembler mnemonics, PETscii superchart.... This tiny little thing is a miniature Inner Space Anthology. It is an invaluable aid that needs a wire binding so you can set it down and leave it open. I would not use it to replace Transactor's authoritative reference (the diary lacks the periodic table of the elements) but rather as a quick and handy addition to it. And it can't be beat when you need a quick reference when you play with department store computers. It would be nice, however, to see a revision next year that has weeks that start on Sunday and lists of American rather than British holidays. Highly Recommended. Tim



CROSSWORD MAGIC: Educational game on disk for the C64. From Mindscape.

I have never been particularly interested in crossword puzzles, but this program has some worthwhile educational uses. You are given the option of specifying a size from 3 x 3 to 20 x 20 squares, or you may let the program automatically size your puzzle to fit the words you choose, within those limits. Then you start entering the words you wish to use. If they fit, they will be seen in puzzle format on the monitor. If they don't, they will be stored for possible later use as the size of the puzzle grows. At any time you can press f1 to request a list of the unused words, deleting any as desired.

Should you not like the position for a word as chosen by the program, you can enter it manually or cause it to search for another position where it will fit. Once you have entered all the needed words, you go on to the Enter clues mode. Each word is highlighted in turn as you enter its clue. When all clues have been entered, you may review and change them or go on to printing the puzzle. Puzzles may be saved to disk, complete or not.

The program supports many printers by loading driver files from disk. Then you are ready to print the puzzle alone, the clues, a word list, the answer diagram or any combination of these. The program worked perfectly with my Tally 160L printer and Cardco +G interface, although since it's printing graphics it takes a while. A 20 x 20 puzzle fits nicely on an 8 1/2 x 11 page, but you will need to advance to another page to print the clues. The program allows for this, telling you to make adjustments before pressing return to continue printing.

The result is a very professional looking puzzle, with box numbers being automatically added to the layout and your clues as you enter them.

Beyond recreation, I feel this program has excellent educational possibilities. I used it to create a puzzle for my 7 year old daughter, including words having special meaning to her. She learned something about spelling and thinking as she gained great satisfaction from finishing the puzzle with minimal help. Highly recommended. Jeff Lowenthal.

ADD/SUB: $24.95 math education disk for the C64 from BEC Inc. Unprotected. Media replaced for a 'reasonable charge'.

Add/Sub is a no-frill addition and subtraction teaching aid for children age five through nine. The program uses screen-size numbers to display both addition and subtraction problems. The student can practice math problems which require carried values, borrowed values or decimal points as well as simple math. To add a challenge, the child can select the pace at which problems must be solved. The default delay is eight seconds, but can be changed to suit the student's abilities. A nice hint option points to the column affected by operations requiring a carry or borrow. While working single digit problems, the program will display the appropriate number of shapes to illustrate the equation. This is valuable when teaching very young children the relationships between numbers and their values. Unfortunately this

option is only active for problems using numbers smaller than ten.

For all its basic qualities, Add/Sub fails to be an effective teaching tool. The developers did little to get and keep the student's attention. BECi's programmer simply converted the tiny VIC 20 version into a tiny C-64 version--even the user's manual refers only to the VIC 20. The result is a teaching tool which takes advantage of none of the C-64's sound or graphics. Without them, Add/Sub is reduced to a electronic problem generator. The program doesn't even offer the basic requirement of an effective teaching tool--positive reinforcement for correct answers. Considering the potentials of the machine, these omissions are inexusable.

Add/Sub is a very tiny, very quiet, unprotected Basic program with limited teaching value. You would be wiser to teach your child using paper and pencil. The learning value would be comparable and $25 will buy a lot of paper. Not recommended. Gary V. Fields

NUMBER-BECi: $21.95 counting tutor for the C64 on disk from BEC, Inc. Unprotected. Media replaced for a 'reasonable charge.'

Number-BECi is an unadorned counting program for pre-schoolers. The program introduces young children to the abstract relationship between mathematical symbols and objects by displaying shapes on the screen which the child must count.

There are three modes of play. Mode one simply displays a number of objects for a selected time period, then the answer is displayed in large, easy to recognize numbers. Mode two requires the child to count the number of shapes displayed and enter the appropriate number. Mode three is like mode two except a time limit is introduced. If the child's answer is correct, the program automatically shortens the delay time; an incorrect answer automatically lengthens it. In modes two and three, the correct answer is displayed if the child answers incorrectly.

The program is designed on sound teaching principles but falls short of being a good teaching device. Any teacher will testify that, before they can teach, they must first get their student's attention and keep it. Number-BECi ignores all the attention getting and keeping power of the C-64. The closest thing to a response from the program is the word 'Whoops!' which appears if the child's answer is wrong. This is an odd response for a program designed for pre-schoolers who probably cannot yet read. The RUN/STOP key is not disabled, so curious young fingers can kill the program while exploring the keyboard. Left unattended with this program, most children would probably do one of three things: (1) sneak off to watch Seasame Street, (2) crash the program, or (3) fall asleep at the keyboard.

The programmer who wrote this program laid the foundations for a good educational tool but failed to develop them. Since the program is written in straight basic and the disk is not copy protected, one could develop a very effective teaching tool around this core program--if the buyer had both the skills and inclination. Not Recommended. Gary V. Fields

ZIP: $100 general purpose project planning tool on disk for the C64 by James R. Lawson. From Lawco Ltd. 30 day media warranty. Anti-warranty on software. Unprotected. Licensed.

ZIP claims to offer the project manager the ability to develop an overall action plan based on the best/worst alternatives for criteria such as time, manpower, equipment costs, etc.

The documentation consists of 63 typed pages bound into a loose-leaf ring binder. However, even with its deluxe style and nice index, the manual could not really explain how to get the most out of a program that looks like someone spent a lot of time developing. There is no tutorial and, although a sample data disk with example project data is included, no real information is provided on how to analyze it.

Once inside the program, there are many irritating procedures and even some glaring errors. Almost every major menu item is loaded separately from the disk. Some options require that the disk be turned over, a procedure never proven safe for disks and drives. Since all of the sub-programs are over 21 blocks long, it takes quite a bit of time just to run the program. Whenever a menu item IS selected, you are asked if you really do want it. This is a healthy sort of double-check, but pay attention... sometimes the default (when pressing RETURN) is YES, sometimes NO--with no apparent pattern. The author confuses disk drive numbers by declaring the default disk DEVICE as zero (which really should be the keyboard) and the DRIVE number as 8 (impossible). A simple transposition, but unprofessional nonetheless. Though the program asked if I was using a dual drive--I said yes--it refused to work with it in some sections.

ZIP is written in BASIC and compiled with the Blitz compiler from Skyles. Though five full pages of the ZIP manual are devoted to end-user, non-disclosure, registration agreements and a lot more legal mumbo-jumbo, no credit is given is given to Blitz (as required by Skyles).

Given its unreasonably high price, incomplete documentation, run time problems, and infamous anti-warranty, I'd say ZIP needs work. Not Recommended. -Kevin Hisel

DESK MANAGER: $29.95 integrated desktop for the C64 (et.al) on disk from Softsync. Unprotected.

This is an interesting little package that offers an appointment schedule, calculator, notepad, phonebook, and a letter writer, all almost totally integrated on the 64. It works. It is as fast as could be reasonably expected. It won't crash on you. This has all the elements of a good desktop utility, but lacks the speed and the power to be truly useful there. So the only market I can see for it consists of those who have a C64 lying idle and feel compelled to make some kind of use of it. It has no real power. It lacks the capacity for a full-fledged anything. Having no real market, it is hard to recommend it, but it has no real flaws. So, AVERAGE. Tim

DATA MANAGER 128: $69.95 spread-sheet on disk for the C128 from Timeworks. Compatible with Swiftcalc 128. DOS Protected. Requires 80 column monitor. 90 day

warranty plus updates. Toll free service number.

All the features you would expect in a good business oriented database plus a few pleasant surprises are packed into this offering from Timeworks.

(1) Files are simple to create and, once created, additional fields can be added. Anyone who has ever used a database has run into the problem of needing to add fields to an existing file. Happily, Timeworks included a easy fix for that dilemma.

(2) The files created by the program are portable and can be used by Timework's C-128 spreadsheet and word processor (SwiftCalc 128 and Word Writer 128). This provides the business owner plenty of power and flexibility at a reasonable price.

(3) Each record can contain up to 100 fields with a total of 4096 characters and can be spread over a maximum of 64 display screens. Each field can hold a maximum of 255 characters and can be defined as either alphanumeric, date, numeric, calculation, or text. Any or all fields can be validated to avoid accidental duplication and each file can be password protected. Labels can contain up to 19 separate fields.

(4) Best of all, Data Manager 128 is flexible. The information can be used almost any way you could imagine, including mailing labels and reports as well as generating graphic representations. Sorts can be defined to suit individual needs and can include any and all of the fields contained in the base file.

All options are activated by pull down menus, so mastering this management program is fairly easy.

The program includes impressive printing options so most printers should work. Any special features of your printer which you wish to incorporate in the printout (font choice, bold type, condensed type, etc.) can be selected before every printer dump.

Data Manager 128 is hurt by two omissions. It has no help screens and no on-screen calculator. I admit I would never expect such frills on most software, but after being delighted by them on Wordwriter and Swiftcalc, their absence is missed. This is an affordable, professional quality product with an excellent manual. Most Commodore 128 owners will be able to use Data Manager 128 the same day they open the case. The program disk also includes a tutorial and sample files to aid the novice. A most welcome feature of this and all Timeworks programs is an 800 support line which means if you ever have trouble, help is only a call away. Recommended. Gary V. Fields

JANE: $69.95 integrated word-processor, spreadsheet, & database for the C128 on 2 disks. From Commodore by Arktronics. DOS protected program disk

For a composite or monochrome screen only, Jane has no facilities to take advantage of an RGB monitor. On the screen there are a number of icons above and below a work area window. Thirty-eight, sixty, or seventy-six columns may be displayed within the window. Thirty eight columns are quite readable on a composite monitor; sixty or seventy-six columns are readable only on a monochrome monitor. The pointer, shaped like a hand with a finger pointing, can be

moved with cursor, joystick, or mouse. Cursor controls confine you to the work window--you must use command keys to page over, up, or down. Using a joystick is extremely slow, and, when trying to select icons on the right edge or bottom of the screen, most of the pointer disappears.

The key assignments are capricious. I wouldn't mind if they were simply arbitrary. The unshifted CLR/HOME key has nothing to do with moving the cursor home or clearing the screen...it selects the hand pointer. Across the top of the screen appear a typewriter, a calculator, and a file cabinet for JaneWrite, JaneCalc, and JaneFile, respectively. Function keys one, three, and five select these. But f1 selects JaneCalc, the one furthest to the right! A little thing, but a reflection of poor design that I found throughout.

Jane is slow. In the spreadsheet I kept trying to cursor up or over to another cell. I would hold the cursor key down, intending to go maybe four or five cell over. Almost invariably it would take several seconds to redraw the block moving screen several times only to end up half a dozen cells further than I wanted to go. There is no way to stop it. Maybe it would be easier to select the page over icon, but not when I lose my pointer over the side of the screen. I tried for several hours to build myself a simple database of keyboard commands so I could print out a cheatsheet. Forget it! I finally got it set up, laid out, and filled in. I could not for the life of me get it printed out in any acceptable form.

Every change of application, from spreadsheet, to wordprocessor, to database, required the program be loaded from the program disk. Thus alot of disk swapping. This brings me to the one nice feature of Jane: If you have two drives, you can simply leave the program disk in one and the data disk in the other. It will handle all the routing itself.

In sum, Jane is slow, cumbersome, and hard to use. It is not powerful, nor particularly useful. It is suitable only for those with a masochistic streak, for those wishing to give a gag gift, or for those collecting curios. Not Recommended!!. Tim

RHAPSODY 64: $64.95 integrated database, wordprocessor, spelling checker, spreadsheet/graphics program on disk for the C64. By Brian Morrow. From King Microware.

Rhapsody is extremely easy to use because it is entirely menu driven. The spelling checker comes with only a 2000-word dictionary, but can be expanded by allowing it to read an entire document and using all those words to fill the dictionary file.

The spreadsheet is unusual in that it can be designed to almost any configuration as long as you stay in it's 18K limitation. For example, you could have 5 columns at 20 characters and 10 columns at 15 characters which would give you 73 rows deep (total 250 characters; 18,432 bytes/ 250 characters=73 rows). The graphics program is nicely done with the option of up to a 36 bar graphs or 36 points on a scatter graph.

The manual design and layout is excellent with approximately 50% of the text as tutorial examples that show how integrate the programs. A macro-driven on screen demo gives an excellent example of

all the programs capabilities. A disadvantage is that the manual contains very poor composition and spelling errors which makes reading and understanding in some areas very difficult. Some other drawbacks are that the bar graphics give you a beautiful on screen display but use the '#' sign on printouts. Also, the spreadsheet is somewhat slow in recalulation.

The use of advanced RAM disk memory techniques allows the C-64 to have enough RAM to make this integrated program truly useful. For example, you can have a three page document in text, a graph, and a 20 column by 50 row spreadsheet in memory all at the same time AND be able to treat it as if it were all in the same file. It also has a very powerful macro command capability.

For many of us, this is all the word processing, database, spreadsheet & graphics program we will ever need. That, combined with its ease of use, (tremendous for first timers) makes this one of THE BEST pieces of software available for the C-64. It is now first place in my personal software library. (Note: a C-128 version will be available very soon.) Recommended. Jerry Hyman.

SIDEWAYS: $29.95 spreadsheet printing utility for the C64 on disk. From Timeworks

One problem with most spreadsheets is getting an acceptable printout. Most print the sheet in segments on single pages. It is then up to you to somehow attach these together to make it look like a spreadsheet once again. Sideways takes your spreadsheet and turns it 90 degrees so you are limited only by the length of your paper, not its width. For more than a year I have been using my computer and Multiplan to do my weekly expense reports. The only problem has been getting them to fit on the standard forms my employer uses. From Multiplan, I was able to print in 20 cpi font on my Mannesman Tally 160L and get everything in, although I still had to cut and paste. With Sideways, I can use a larger font and produce a printout that is almost exactly the size I need.

Like a word processor, you have a printer setup program called "install" from which you select your printer, device number, interface, and number of data bits. This information is then saved to the disk and need not be reentered unless you make a change. Other options include type size, line spacing, margins, etc.

To use Sideways, you must use some kind of export function from your spreadsheet to create a sequential file. This file usually cannot be reloaded into your spreadsheet, so be sure to do a standard save as well.

Sideways is a program that addresses a real need for many users, and it's fascinating to watch. If you do not yet own a spreadsheet, you might want to investigate Timeworks' Swiftcalc which has Sideways included in the package. Highly recommended.

SUPERSCRIPT: by Simon Tranmer. $79.95 Wordprocessor with spelling checker for the C128 on disk from Precision Software. No stated media warranty. DOS protected (backup disk available for $20.00).

I have been an almost rabid user of Precision Software's venerable Easy Script and Superbase 64 programs for three years, so when I heard about Superscript for the 128 I had high hopes. I was not disappointed.

Superscript is both menu and command driven. Beginning users will appreciate the on-screen command menus at the top of the screen, while more accomplished users can fly through the program by using quick keystroke commands. The documentation is very thorough but a little wordy at times. A full tutorial with plenty of examples (and sample documents on the disk) makes learning the program easy. But, because Superscript is so feature packed, it may take a few sessions with the included tutorial to get going.

Getting Superscript to work with your particular printer is easy. All of your printer's command and escape sequences are stored in a standard text file which is loaded up whenever you boot Superscript. You no longer need to type three or four esoteric codes to access printer functions. For instance, to underline simply press F1 to initiate the command, 'F' for feature, and 'U' for underline. This also adds transportability between printers. Another file with user defined margin settings, function key definitions, and screen colors is also automatically loaded.

Some bells and whistles present in other programs, like the on-screen italics and boldface of Paperback Writer, are not here, but good, solid utility and function options abound. For instance, Superscript can act as a mini-spreadsheet by performing math operations on columns of numbers. Word wrap can be toggled on and off. A built-in disk backup option is present.

A powerful mail merge feature lets you write form letters to send out to all your friends (shame on you). A built-in spell check function performs quite well, and includes a user dictionary section in which you can place often used words that are not in the main dictionary. You can save typing by defining certain keys with your own, most used text such as letterheads, names, or even Superscript commands. These command strings can be up to 1024 characters long.

Superscript features both 80 and 40 column operation, with all features available in both modes.

As a bonus to Easy Script users, Superscript files are compatible and many of imbedded commands are identical or so similar that translating them is a snap. I could not find any features of Easy Script missing from Superscript. If you have used Easy Script for any length of time, learning Superscript will be very painless. The command structures are quite similar and some keystrokes are identical. This program would be the most clear and obvious choice for the Easy Script user who wants to upgrade.

Superscript is not without its faults, though. I find that the cursor could move just a little more quickly (it sometimes disappears while moving around the screen). There are shortcuts around this, such as moving from word to word or from paragraph to para-

graph. Another annoyance is that the control key is used in some command sequences. It would have been just as easy for the programmer to have used the Commodore logo key which is more easily accessed on the keyboard. One feature missing is a delete buffer. It would be reassuring to know that if you erase a block of text by mistake, you could easily recover it. The program does offer quite a few "Are you sure?" type prompts to prevent this from happening, though.

One of my pet peeves is the practice of using a flip-over disk (the dictionary is on the other side of the program disk.) This practice has not yet been proven safe. The flip side of the disk is not copy protected, so make a backup and only use the program side.

Superscript is an extremely well written and offers more features and power than most users will ever normally need. It is easy to use but remains extremely powerful for even the most demanding professional user. Highly recommended. Kevin Hisel

VIZAWRITE CLASSIC: $69.95 word-processor on disk and ROM cartridge for the C128 from VIZA Software, distributed by Solid State Software. DOS protected. Licensed.

This professional level product promises, and delivers, so much power. It is a real pity that it is so crippled by bugs. It took me less than ten minutes to find two ways to completely crash the program. I have since found many others.

By general design, in the features it offers, and with the promise of Vizastar for the C128, it would seem to be the most powerful, most professional word-processing package available. Page formatted, automatic re-pagination, menu driven by key letter or cursor, full tabulation-- including decimal --arithmetic functions on rows and columns, comprehensive merging, the ability to load program and sequential text files directly, wide printer support with relatively simple custom configurations, up to eight columns on screen and printed page, headers, footers, selective page printing, screen dumps, help, variable fonts from software--even on an 1525/801/803--notepage, calculator, etc. And all of it is relatively easy to use and well documented in a 120+ page manual.

But when looking at the directory, you will see only sequential files that Vizawrite thinks it can load. If you want to load a WordPro (program) file, which Vizawrite Classic supposedly provides for, you had better know which disk it is on or you will never see it on the directory. And, by the way, you don't load it, you merge it from another command box. And EasyScript or Superscript files, which do show up on the directory, must also be merged. If you try to OPEN (load) them from the FILE LIST (directory) you crash the system. It does open a warning window, to tell you that the file you want is "Not a Vizawrite File." It sometimes does this for its own files as well. In either case it locks up and you must then turn off your computer and reboot. Of course, you can use the f1 key to select the cancel option before you make such an error, but it locks up on that too.

The screen scrolls rapidly off the top of the screen, but very slowly off the bottom. Vizawrite

does offer powerful cursor control by page...but you can never tell for sure just exactly where it will end up. And looking for a little green underline cursor in a screen full of green text is no fun.

Inserting new text is easy, especially at the end of a paragraph or page. Just type away. The end of paragraph marker will automatically move. But, if the page is very large, I can outrun the screen response at under 40 words per minute. So, go into insert mode. But be careful. If you are near the end of the page, it will scroll up by about 5 lines. It will sometimes transpose lines and corrupt the file when you do this.

VizaWrite Classic does support disks as either device 8 or device 9, but not both. I usually leave the system disk in #8 and reroute the rest of the access to device #9...This makes it easier to reboot when it locks up.

Vizawrite is supposed to do multiple columns. Fine, it does. It is supposed to block justify. It doesn't. And if you should ever want to print double columns with justification, forget it.

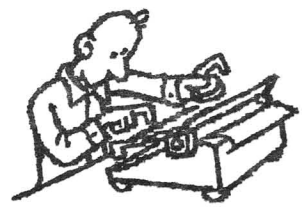
The delete key on all Commodore machines deletes the character to the left of the cursor. Why, then, must Mr. Lacy have the delete key delete the character which the cursor is on? It's a pain to make this transition from BASIC or any other wordprocessor (except OMNIWRITER).

The spelling checker works beautifully on small documents. Fast. Accurate. And a very nice dictionary. And it locks up quite frequently. I imagine that my file was too big, but it would be awfully nice if it would tell me so instead of quitting and shutting up.

If it sounds like I have a grudge, I do. I fully intended to use Vizawrite Classic as my primary wordprocessor. I really wanted it to work. I spent alot of time and effort trying to make it work. This issue of the Midnite was to be done completely with Vizawrite. After three weeks of working with it, I could not handle it any longer. I finally took a day to save my files from its clutches and am now back to WordPro 128. I fully intend to use this program extensively if ever a version comes out that does not lock up so easily, has most of the other bugs removed, and I can learn to tolerate the petty oddities.

Finally, why must a program which requires a ROM cartridge have a DOS protected disk?

Still, Vizawrite Classic is a very powerful wordprocessor. It is supposed to have more features than I could ever expect to need. But it is slow, the bugs are crippling, and many of the features work incorrectly or not at all. So, until the bugs are removed, beware! If you should happen to purchase a copy that locks up on you, become dissatisfied and take advantage of the full money back guarantee that is offered and wait for a new version to come out. Until then, Vizawrite Classic is NOT RECOMMENDED. Tim Sickbert



Word Writer 128: $69.95 wordprocessor on disk for the Commodore 128. From Timeworks. DOS protected. 90 day media warranty, updates, and toll free support line.

If you need an easy to use professional quality wordprocessor for your C128, this one certainly deserves your attention. Help screens and pull down menus, plus one of the best written user's manuals I have ever seen, make Word Writer 128 perfect for those who want to write without learning cryptic keystroke commands.

Word Writer features most of the standard editing functions, all easily accessed via pull down menus. Plus the program offers an on-screen calculator which is available at any time with a single keystroke. The results of the caluculation are automatically transferred into the text.

A spelling checker with an 85,000 word dictionary is stored on the reverse side of the program disk. It is not copy protected so you can, and should, copy it to another disk. Unlike some spelling checkers I have used, this one not only flags suspected spelling errors, but also allows the user to scroll through an on-screen dictionary in search of the correct spelling. When the correct spelling is found, a simple press of the <return> key corrects the text file.

It is a "what you see is what you get" wordprocessor, and works only in the 80 column mode. This display works well as long as you do not mix single spaced text with multiple spaced text. The page break indicators will not be accurate if you do mix the spacing.

I had some misgivings about the wisdom of pull down menus. All the wordprocessors I write with use a combination of keystrokes to activate their features, a process which takes a little time to learn, but pays off in speed. I expected Word Writer's menus to slow me down. But, with a little practice, the keystrokes required to call up the menu, select the feature, and complete the editing felt comfortable and took no more time than the special keystroke method of my traditional wordprocessor. In fact, I saved time by not having to memorize commands or search through a user's manual trying to find out how to do things.

Finally, I must highly commend Timeworks on their toll free support line. Any time you have trouble with one of their products, simply call them. I tried the number and got friendly help on the third ring. Recommended. Gary Fields.

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CASH CONTROLLER: $19.95 personal budget program on disk from Richard Shepherd Software. DOS protected. No warranty.

Cash Controller is a home budgeting aid which was born in England and unfortunately retained its English accent. The program disk includes three financial aids: Bank Account, Home Budgeting and Loan/Mortgage Calculator. The three integrate to help you spot financial problems quickly and solve them before they become unmanageable.

The Bank Account section of Cash Controller keeps track of your real dollars while Home Budgeting lets you establish goals and calculate results should you shift money between expenses, as well as the effect added or lost income would have on your budget. The two programs can store up to 400 transactions using fast to sort but slow to load sequential files. (This size limitation may be no problem for the average homeowner, but prevents Cash Controller from being useful for all but the smallest business owners.) Transactions are coded under 16 budget headings of your choice (such as Utilities, Auto, Tax, Charges, etc.).

The Mortgage/Loan Calculator helps you decide whether you can afford to borrow money or not. You supply three of the four loan conditions (amount borrowed, period of time, rate of interest or monthly repayment) and Mortgage/Loan will calculate the fourth.

The program could be a helpful fininacial aid, but has some flaws. One is its English accent. Cash Controller uses the English pound symbol instead of the dollar symbol, giving printouts a curious appearance. Why the code was not corrected before the program was exported to the United States is a mystery.

A major flaw is the lack of a true user's manual. The four page instruction sheet included contains only abbreviated information, which, while it might serve well as a reference card, doesn't begin to supply the information a novice user would need.

The biggest flaw is Cash Controller's nearly unreadable display screen. The Bank Account screen is orange with red text. Try that combination and try to read the screen. I was mystified by this elementary level programming error. You can improve the display by pressing the CTRL key and key one or two at the same time to select either black or white text, but this is not mentioned in the mini-manual and is inexcusable.

At half that price I still couldn't recommend the product. If you are in need of a financial help, take some sound financial advice and save your $19.95. There are better financial aids on the market. You'll have to pay more for them, but the difference will be money well spent. Not Recommended. Gary V. Fields

PERSONAL ACCOUNTANT: $34.95 personal bookkeeping package for the C64 on disk. From SoftSync. 90 day media warranty. Unprotected.

It is not big. It is not fancy. But it is easy. It is fairly versatile. And it works. I did not push it to its limit, but I did try everything it offered to some length. I am impressed.

PERSONAL ACCOUNTANT keeps a double entry ledger for a large number of a variety of accounts on

disk. For every entry you must give the date, the amount, and the two accounts which the transaction affects. You can have up to 144 (disk limit) different accounts, typed as deposit, loan, income, or expense. Transactions can affect any two. The program will generate a report based on any one, almost any combination, or a whole set of accounts. A wide variety of printers are supported, and modification of the printer driver is easy. All in all, a very decent product. Above Average. Tim

PRINT MASTER: $35 home graphics program on disk for the C64. From Unison. DOS protected.

Ever used Print Shop? Well Print Master is exactly the same thing with at least two new features!

DIFFERENCE 1: After you've created your favorite sign or stationery, Print Master lets you view it before print. If corrections are needed, it allows you to go back and make the appropriate changes.

DIFFERENCE 2: Unison has added a calendar feature that offers monthly or weekly personalized calendars. Users can choose from several graphics on the disk to dress up the artwork

In summary, Print Master has everything that Print Shop has and a little more. Users beware! Print Shop graphics cannot be used with Print Master and vice-versa! The two are so much alike that supposedly Broderbund has filed a lawsuit for copyright infringements! Recommended. Mike Stout

PRINT SHOP GRAPHICS LIBRARY #3: $25 disk from Broderbund. For use with the Print Shop.

This third graphics library disk from Broderbund contains international symbols like no smoking, business, myth and fantasy, animals, Christmas, etc. This collection will supplement any avid Print Shop user's library. But the price of future graphics disks will have to come down to remain competitive, as many PS users are creating public domain symbols now. A good value and another fine addition to this popular line of software. Recommended. Mike Stout

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THE MUSIC SHOP:$44.95 music editor disk from Broderbund for the C64. Joystick and printer optional. DOS protected. 90 day media warranty.

The Music Shop is a professional quality music editor which both accomplished and would-be musicians will find effective and easy to master.

If you can type, you can write music with The Music Shop because it works like a word processor. Macintosh-like pull-down menus are used to activate the editing and performing options. Notes are placed on staves by picking the desired musical symbol and depositing it in the correct location on the musical staves or by direct keyboard input which allows experienced users to write faster. Novice users will probably prefer the window method until they become familiar with the program. Each note is sounded as it is placed on the screen. Sections of the music can be copied, deleted, or moved from one section in the score to another. This means errors are easy to correct and melodies can quickly be copied from one section to another.

If it's musical, The Music Shop has it: sharps, flats, naturals, dotted notes, rest, ties, intervals, as well as measures and bar lines. And, like a good word processor, nothing is permanent until you say so. Using the editing tools you can duplicate, change and test your music until its just the way you want. The program allows either single or double staff grouping and you can select clef type and key signature.

But the most impressive feature of The Music Shop is the ability to hear your music and make changes as it is played. You can listen to and edit the entire song or just the section you want to edit. You can play your score with one, two or three instruments (all performing at the same time) and instruments can dropped and replaced by another with a simple point of the arrow while the music continues to play. Not only can you choose the instruments, but you can vary qualities like waveform, filter, tempo, vibrato, pulse width, etc.-- all while the music is being played. Thus the effect of the change is instant

Another impressive feature is the print music option. The Music Shop will dump your musical score to a graphics printer using true musical notations.

The single shortcoming of The Music Shop is the computer itself. No matter how you look at it, the C-64's keyboard more resembles a typewriter than a musical instrument. It would be helpful if a piano type keyboard could be interfaced with the program. I have read that such a instrument (designed to interface directly with The Music Shop) was being developed by Passport Designs Inc. but, at this writing, I have not seen the product.

The Music Shop comes with an easy to understand, 44 page manual which includes a tutorial, a section explaining the basics of music, and a quick reference card. The program disk also includes a selection of impressive sounding demo songs.

I've learned more about music in the past month of using The Music Shop than I have in the the past thirty years playing the guitar. Songwriters, serious students of music, and parents with children interested in music would be wise to take a look at this impressive product. Highly Recommended. Gary V. Fields

JET: $39.95 flying simulator on disk for the C64. From subLOGIC. DOS Protected

Jet continues where Flight Simulator II left off. With Jet you are in control of a HI-TECH fighter jet capable of flying at Mach 2 with a maximum altitude of over 90,000 feet. Jet offers a pilot's view or the control tower's view of your plane as you takeoff, fly, and, hopefully, land. The control tower view is especially nice as you fly the plane as if by remote control. You can even watch your own parachute open after you've ejected. Most commands are very similiar to FSII, but simpler. The jet is controled by onboard computers so you just point to where you want to go, equalize all control surfaces and the computers will hold that course till you change it.

There is a practice mode where the plane simply will not crash. You can practice landings on land or the aircraft carrier with no fear of collision. There are game modes for air to air combat and for bomber missions. You select the skill level desired for any mission and go at it. If you find that it is too hard just go back and try an easier level till you succeed. You can also load in scenery from the original FSII disk or the optional scenery disks, so you can just cruise around and see the sights.

There are several things left out of this package that were included in FSII. There is no editor feature, so flights cannot be saved. There is no map view; the control tower view seems to have been traded for that. All in all I liked Jet quite a bit more than Flight Simulator II. The ability to see the plane as you put it through the paces is addictive. I think Jet makes a better game than it's predecessor and that it also will be one of the first things I load up on my system for some time to come. Recommended. Steve McNamara.

THE DAM BUSTERS:$24.95 game disk for the C64 Arcade Game on diskette from Accolade. Joystick and Keyboard. 90 day limited warranty.

This simulation of low level night bombings of three German dams during 1943 gives instructions that are easy to follow and provides helpful hints on how to win. It has a practice run plus two levels of bombing runs. The practice level teaches you how to bomb dams--not as simple as you may think. Once you 'master' the dam bombing, your ready to try the enemy. The action gets hot soon as you cross the English Channel and the German defenses try to stop you. This, at least, will make the practice look easy.

This 'shoot'em up' game will frustrate and entertain the best of players. Good graphics and sound make this alot of fun. Recommended. Rod Clinton.

MASTER MODEM: $45, 300 baud direct connect, auto-dial, auto-answer modem for VIC-20, C-64, Plus-4 and C-128 (software written for the C-64) From Video-7, Milpitas, CA 95035. One year warranty.

The MASTER MODEM is almost completely compatible with the now discontinued Commodore 1650 modem. This is important because the 1650 is still the 'standard' modem for Commodore computers and is supported by almost all terminal software programs, despite its uncertain availability. The MASTER MODEM is made in the U.S. and appears to be of high quality. One feature that it has that the 1650 does not is an automatic carrier toggle between answer and originate modes. Since this is sometimes incompatible with other modems (the infamous Commodore 1660, for one) there is a manual override that allows you to lock it into either mode. One missing feature is a duplex switch, although this can be toggled by software.

MASTER MODEM comes with its own terminal software on diskette (for the Commodore 64) which is probably the best terminal package ever offered with this type of modem. It is very easy to use and has all the standard features that you would ever want--including BOTH X-Modem and Punter protocols. a capture buffer, smooth screen scrolling, complete access to the disk drive, an auto-dial menu with room for 23 phonebook entries, and a very well written manual designed to get the first-time modem user off to a good start. While the X-modem transfer works quite quickly (well, as fast as 300 baud will allow) the Punter protocol is the 'old' Punter system and operates at about half the speed of the new 'C1' protocol.

Taking into account its reasonable price, high degree of compatibility and quality of the supplied software, the MASTER MODEM would be a good choice. Recommended. -Kevin Hisel

Total Telecommunications Modem: $19.95 (+$4 post & handling) direct connect, autoanswer/autodial 300 baud modem for the C64 from C.O.M.B. liquidators. 90 day guarantee on hardware only.

Well, I went against my belief in the old adage "if it sounds too good to be true, it is;" and sent my check to C.O.M.B. on 11/22/85. I'm glad I did! I recieved my modem on 12/09/85. It comes with a 110 page manual and sofware on disk which is better than the programs included with the Commodore 1600, 1650, and 1660 modems. I prefer some PD sofware that I have been using on the C1650 and VicMODEM and am very happy that it works equally well on the Total Telecommunications modem. I am currently running a BBS for the members of our local Jackson Commodore User's Gropup and find this modem to work every bit as well as the 1650. Several other members are also using it and everyone seems well satisfied with it. The only difference I can see is that the 1650 has a (full/half) duplex switch and an (originate/answer) switch. In my experience, the switches have caused problems when set wrong and don't seem to be needed so I count the lack of them a plus! This modem should be [and is. ts] compatible with the VIC and 128, but of course the programs are for the C64. For any body who wants to communicate at 300 baud, this modem is Highly Recommended. Rick Crone.

POCKET MODEM: $ 300 baid modem for VIC, C64, & C128 from Bot Engineering.

About 1/3 the size of a Vicmodem, the Pocket Modem allows your phone to be connected if desired, has an answer- originate--off switch,and lights to indicate online and carrier detect. It comes with a terminal program, on an unlabeled disk which I promptly erased in error. The rather sketchy documentation says that the programs on the disk are public domain and Punter compatible. Happily, the Pocket Modem works well with Compuserve's Vidtex program.

Pulse dialing is supported and worked well. The modem chip is socketed, allowing simple replacement with the 1200 baud chip which is supposed to be available soon. Although there is no speaker for monitoring your call, it's not necessary since lights indicate modem status. Also, you can hear the clicking of an internal relay is it dials.

This is a nicely designed product that works. It has replaced my Vicmodem, and I no longer have carrier detect problems. The 1200 baud option should make it a winner, particularly if offered at a moderate price. Recommended

PRO-TERM64: $39.95 terminal emulation program by Gary Farmaner and Eric Anderson, from King Microware. DOS Protected. 30 day media warranty. Anti warranty on software.

Proterm is a complete terminal package but not the easiest I have used. You can set up autologon sequences for your favorite telecommunication system as well as download in one of three formats.

The program supports old and new Punter, XMODEM, VT100, VT/52, and televideo 910/920 terminal emulation. If this isn't enough you can also save data in the buffer to disk or print as you desire. Baud rates can be set from 110 to 1200, and all protocol parameters can be modified. Forty column is great, but eighty column leaves alot to be desired, though it is nice to have it available. Streaming to the printer is supported, but will occasionally do weird things when streaming from a Punter board. Autodialing is easy with 1650 compatibles; smart modems such as Commodore's 1670 are a bit more troublesome. I have used public domain terminal programs that were much easier to use with nearly the same features (or at least the features I was most interested in). And they are free! This is a good and really complete system, but so are alot of other free or less expensive terminal systems. Not Recommended. Steve McNamara.

SYNTECH BBS CONSTRUCTION SET $55 bulletin board system disk by Will Gaddy from SYNTECH SOFTWARE from Micropace Distributing.

After trying out almost every BBS program available for the Commodore 64, our club decided run this BBS. SYNTECH has almost every function any user is looking for, regardless of the computer. The SYSOP's ability to run this software makes it very attractive. On first loading, choose the construction set mode and follow the easy instructions. The user can designate drive configurations, including options for the 1541, dual drive (MSD or 4040) and even the SFD 1001. Go on to desribe how

many sub-boards (General, For Sale, SYSOP, etc.) you want--the number allowed will depend on your drive configuration.

SYNTECH will allow a download section for each message board and and transfer files using XMODEM, PUNTER C1 & DIRECT FILE TRANSFER protocols. These features alone make this software very attractive. All uploads can be put in a probationary file and only viewed and/or released by the SYSOP.

This BBS also allows a totally private BBS or a public one. If public, several access levels can be set. These include everything from the 'Jerk' status, which doesn't allow access at all, to 'Remote SYSOP'. The 'Remote SYSOP' feature is nice because it allows other users to serve as system operators from their home and they can do almost everything that the SYSOP can.

The message bases have several good features which allow users to read either new or tagged messages. Other features include scan, quick scan, read continuous and more.

From a SYSOP's viewpoint, SYNTECH is a viable alternative to the Punter BBS. It's much cheaper and very easy to set-up and maintain. One thing and possibly the most important is that SYNTECH will run on either a 300 or 1200 baud modem. For the price, I don't think you'll be able to beat it & I Highly Recommend it! Mike Stout

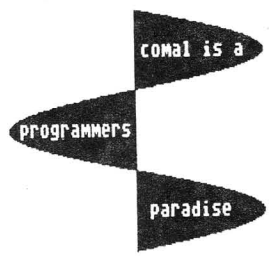
* If you don't have COMAL yet, order a Programmer's Paradise Package-$19.95. It includes the complete COMAL system plus over 400 pages of information. Add $5 more to get our 20 interactive lesson Tutorial Disk. Add $2 shipping. Visa/MC or US funds check accepted. Send to:

COMAL Users Group USA
6041 Monona Drive, Room 115
Madison, WI 53716
phone 608-222-4432

Easy Curves

1) Insert your COMAL disk in drive*
2) Type LOAD "C64 COMAL*",8
3) Type RUN (starts COMAL)
4) Type AUTO (turn on auto line#'s)
5) Enter the program lines shown below
(COMAL indents lines for you)
6) Hit RETURN key twice when done
7) Type RUN

```
0010 setup
0020 curve
0030 paint'it
0040 add'words
0050 //
0060 proc setup
0070   black:=0; yellow:=7
0080   background black
0090   pencolor yellow
0100   setgraphic 0 //hi res screen
0110   hideturtle
0120 endproc setup
0130 //
0140 proc curve
0150   moveto 110,0
0160   drawto 110,199
0170   for row:=0 to 10 step .03 do
0180     drawto 110+99*sin(row),row*20
0190   endfor row
0200 endproc curve
0210 //
0220 proc paint'it
0230   fill 120,20
0240   fill 100,90
0250   fill 120,180
0260   fill 100,198
0270 endproc paint'it
0280 //
0290 proc add'words
0300   pencolor black
0310   background yellow
0320   plottext 120,155,"comal is a"
0330   plottext 16,90,"programmers"
0340   plottext 120,30,"paradise"
0350 endproc add'words
```



Notice how easy graphics are in COMAL. Lines 70-100 set up the screen colors. Lines 150-190 draw on the screen. Lines 230-260 fill (paint) whole parts. Even putting text on the graphic screen is easy. See lines 320-340. All this is standard and built in as part of COMAL. Plus a full turtle graphics system. Now you know why there are 100,000 users.

Super Box 64: $129 IEEE interface and cartridge expansion unit for the Commodore 64 from Handic Software ab; Stockholm, Sweden. No warranty is expressed or implied.

The Super Box 64 offers switchable expansion slots that allow up to three cartridges to be connected at the same time. All cartridges that I was able to try, including COMAL 80, worked without major problems. RUN/STOP-RESTORE will, however, bring back Superbox's default colors of white text on a dark blue background with a yellow border.

Two devices may be connected to the IEEE bus at the same time. Also, multiple 64's (up to four) may use the same IEEE peripherals when each computer is equipped with a Super Box. Activation of the IEEE bus excludes the use of all tape functions. The IEEE bus and the serial bus work together, with the device number deciding which is to be used. Default is always to the serial bus. Thus, if you have a 1541 interfaced serially as device #8 and a 4040 interfaced in IEEE as device #8, the 1541 will be accessed.

The physical characteristics of the device are rather awkward. The 8 inch long, 3 inch wide unit sticks straight out of the expansion port. This would not be bad except for the positioning of the IEEE bus and the selection switches. The IEEE bus comes off the right rear side of the box. I would have found this more conviently placed straight off the back of the unit. The selection switches are VERY poorly positioned. Clear at the back facing away from the computer, four locking pushbutton switches control the the cartridge and IEEE bus, and a normal pushbutton provides a hard reset (sys 64738). I found it very difficult to switch between various configurations. To switch in a cartridge and the IEEE bus (as for COMAL 80 and a 4040 disk drive) both the locking IEEE switch and the correct cartridge switch must be held down simultaneously. It is hard to reach these switches and they do not operate well.

Except for the poor quality switches, the unit is well made and has a nice solid feel. It is contained in a metal case held together with screws. A hardware connection must be made from a connector on the Super Box to R44 inside the 64 with an included jumper wire. With the IEEE bus engaged this allows the bank itself in and out as needed, thus requiring no RAM of the resident memory configuration. Missing is BASIC 4.0 or similar language enhancement for talking to peripheral devices. This is especially a pain when using the copy or backup functions of a dual drive. Utilities such as Commodore's wedge or SYSRES (if you can find it) must still be loaded. One interesting aspect of the unit is its speed. For disk activities it is considerably faster than the other IEEE interfaces. My benchmark is the PD program Monopole. My BusCard II loads it in about 30 seconds. Super Box takes only 16.

An added plus, the cartridge expansion slots work perfectly with the C128. If set for IEEE, the C128 will go directly into C64 mode with IEEE available.

In summary, the Super Box 64 expansion unit is well made, reasonably good at what it does and is reasonably priced. Recommended
Stephen R. Gast

CARTRIDGE EXPANDER: $29.95 cartridge expansion board for the C64 or C128. From Navarone. 90 day limited replacement warranty.

This little board offers three switchable cartridge slots and a reset switch. The single slide switch determines which cartridge is online--it can be only one at a time. The cheap slide switch sets on top of the board behind all the cartridges. This makes it hard to get to and it is hard to be sure that it is set in the middle. It lacks a setting for all the cartridges to be turned off and an unswitched slot to allow for simple IEEE or stacking. It looks like it was designed by someone who had no idea of the user's needs. If you just want two or three cartridge slots, this will do it. If you want flexibility and ease of use, there are certainly better products available. Average. Tim

MACH 5: $34.95 disk accelerator & utility cartridge for the C64 and 1541. From Access Software.

This is a cartridge similar to Fast Load, but apparently not plagued by some of that devices problems. I have seen numerous statements about lost data after saves while the cartridge was enabled. I have had no such problems with Mach 5, but then, the Mach 5 doesn't speed up saves.

There is a very useful DOS wedge included, making it simple to read directories, print the screen, send disk commands, etc. Loading of programs like Paperclip was speeded up, as was Multiplan, although the latter was not as greatly affected. It is not as fast as 1541 Flash from Skyles, but I can't use that with my 1571's and thus have been unable to make comparisons.

One major difference is that Flash! speeded up saves. Mach 5 does not.

There is a command to disable the head knock due to program protection, and you may choose to disable the fast load utility but retain the wedge commands or vice versa. The Mach 5 is menu driven, and you can call up the menu screen at any time by typing backarrow-M.

Although its documentation makes no mention of the 128 or 1571, it works just fine in 64 mode, and even worked with a combination of one 1571 and a 1541. One published review stated that it would NOT work with this combination, which is why I didn't buy it earlier. Also included is a disk with a library utility that will catalog your disks. It seemed to work well in a limited test, but will not accept two disks with the same name. (You must have one or two, right?) A provision is made to change the name of the errant disk before it is catalogued, and that solves the problem. It works with one or two drives, reading the directory automatically.

The information thus obtained can then be sorted, and added to the master list disk, from which information can be selectively viewed... like all PGM files, all SEQ files, etc. The information may also be printed. For all operations the Mach 5 cartridge must be plugged in.

Another utility frees up an extra 4k of ram for your use in programming, but I have not made use of it. Overall, this is a lot for your money, and recommended. Jeff Lowenthal.

MACH 128: $49.95 disk speed and utility cartridge for the C64 and C128 computers with 1541 ør 1571 disk drives. From Access Søftware.

The same as above, plus a dip switch to toggle between C128 and C64 mode and a reset button. It works fine with any combination of C128s, C64s, and 15xx drives. It acts just like the Mach 5 when used with a C64 or in 64 mode of the C128. Disk loads from a 1571 to C128 are nominally faster. Wedge commands affect only the default device; the default can be changed. Number base conversion routines are built into the cartridge. The disk cataloger works in 64 mode only. All in all a good cartridge based utility, but I have noticed one bug. TI$ cannot be reset under software control when the cartridge is engaged in 128 mode. Also, I have no idea why they bothered with a reset switch on a cartridge intended for the C128. It seems a bit redundant, but there it is. And, I'm afraid the price may be a bit steep for most people. It's good. It works. I like it. Recommended. Tim

FASTLOAD (update): disk speed up cartidge from Epyx.

For everyone still using Epyx's Fast Load:

One nice function missing from Fastload's monitor is a fill command (a command used to fill a certain range of memory with a specified byte). I've found a way around this by using the 'm' command (move memory). Here's the syntax:

1) Make sure the first location contains the byte you wish to fill memory with Such as the zero in $8000, in the example below.

```
8000: 00 ea dd 36 4e 9f 88 2a /
```

2) Now to fill $8000-$9000 with 0, type:

```
.m 8001 8000 9000
```

B.J. Anderson

WATCOM Pascal V 2.2: $150 Pascal interpreter on disk and cartridge, with manual, for the C64. By Boswell, Grove, and Mackie, from WATCOM Publications, Ltd., Waterloo Ontario, Canada.

The WATCOM Pascal interpreter, program editor and operating system for the Commodore 64 comes in a three - part package: A ROM cartridge contains the operating system and program editor; a disk holds the Pascal interpreter, subroutine libraries and many example programs; and an excellent 524 page book (from which the disk examples were taken) contains a beginner's programming tutorial and a technical reference. The package is squarely aimed at the educational market and at high schools in particular. Its authors are careful to point out that the requirements of the Educational Testing Service (ETS) Advanced Placement Program for Computer Science have been considered in the development of this text.

The authors' aim is steady and sure throughout. The tutorial section of the book is suitable as an introductory programming text, complete with chapter summaries and exercises at the end of each of the twenty tutorial chapters. The ROM program editor always highlights the current edit line to make absolutely clear to the student where his or her keystrokes will affect the file. The Pascal interpreter itself stops when an error in the program is encountered and gives the student the opportunity to re-enter the editor with the offending line of code as the current edit line. There is also a useful debugging utility with which you can examine variables, execute the program step-by-step, or execute Pascal statements in immediate mode as in BASIC.

WATCOM Pascal takes you firmly in hand and leads you through the steps of creating, debugging, and using your first computer programs. Student and teacher alike will find it a safe and easy system to work with, regardless of past computer experience.

Let's turn to a technical description of the package. WATCOM Pascal, its authors claim, follows closely the ANSI Pascal standard which is in turn quite close to the original Jensen & Wirth standard. As with most microcomputer Pascals, WATCOM has not implemented packed variables or the standard procedures 'pack' and 'unpack'. Also, the variant record versions of the standard procedures 'new' and 'dispose' (for creating variables on the fly during program execution) are not implemented. These features arose from trade-offs between space-efficient storage and speed of execution on mainframe computers, and are not missed in the microcomputer world. Other than these documented omissions, I found no exceptions to the Jensen & Wirth standard while testing this Pascal.

The authors have also added many useful extensions which correct deficiencies in the Pascal standard and adapt Pascal to the Commodore 64 environment. Corrections of deficiencies include an 'else' clause for the 'case' statement, a 'string' variable type and a complete collection of predefined string-handling procedures, a random-number generator and procedures analagous to BASIC's 'peek', 'poke' and 'sys' commands (but extensive use of machine language subroutines would not be easy).

The standard I/O procedures

('reset', 'rewrite', 'readln', 'writeln', etc.) have been extended to make working with all Commodore files and physical devices (including such oddities as the 1520 plotter) easy. Relative file use is aided by a special set of I/O procedures. There are also predefined procedures for manipulating the text screen, including cursor positioning, color and character set selection, etc. Finally, by loading additional subroutine libraries from disk, one gains access to a whole rainbow of graphics and sound procedures which make Commodore 64 hires graphics, multicolor graphics, sprites, and sound shine. The graphics libraries include procedures for making circles, boxes and lines, for color-filling regions, and for writing text on the graphics screen. It was disappointing though, especially for a package aimed at schools, to see that the graphics procedures reference screen pixels using the upper left-hand corner as the origin. Also, no account is taken of screen aspect-ratio problems. These are relatively minor annoyances in an otherwise complete graphics package. Sprites can be defined with a special editor and saved to disk to be called from within a Pascal program using the sprite subroutine library. The sprite library itself is quite complete, including procedures for collision detect, multicolor sprites, etc.

The sound library contains procedures which allow any SID register to be set. But playing a note still involves using the two-byte frequency values found in the back of the Commodore 64 User's Guide.

Granting this Pascal's intended audience, I find very few flaws in the package. I do have some complaints and warnings, though: The fact that this Pascal is interpreted, rather than compiled, is what makes the error detection and debugging so easy. The price in execution speed is high: A benchmark program found 1000 primes in about twenty minutes with WATCOM Pascal; using a good Pascal compiler for the '64--KYAN Pascal--the benchmark took about a minute (the same benchmark takes about eight minutes in BASIC 2.0).

The ROM cartridge makes a good line-oriented full screen editor available to the student at all times, and smooths out disk access by replacing the '64 operating system with its own. It is also a form of copy-protection: you can copy the WATCOM disk as many times as you like, but WATCOM Pascal will not work without its cartridge. Because the cartridge takes over the operating system it is difficult or impossible to mix use of WATCOM Pascal with use of other software in the same session at the '64.

The text editor displays a full screen of text at a time, and allows you to modify one line of the file at a time. It works well, though it's a bit heavy on modes for my tastes. I never was able to figure out how to change the text and background colors in the editor and I got a little woozy looking at white letters on a black background (which my '64 likes to send ripples through).

Loading the Pascal interpreter or subroutine libraries from disk is somewhat awkward: before issuing the load command, you must ensure that no text is in the omnipresent text editor. The wait for a load is also quite long: since the cartridge takes up the expansion port and takes over the operating system, no fast-load schemes are

possible. Granting the existence of the ROM cartridge, it is surprising that these support files are not kept in more ROM in the cartridge to be bank-switched into place or loaded from a ROMdisk when needed.

For these reasons, WATCOM Pascal would not be a very good choice for someone who is looking for a general-purpose programming language for the '64 in addition to BASIC. But in the high school setting at which it is aimed, WATCOM Pascal would do quite well. RECOMMENDED. Brian Junker.

SUPER PASCAL: $ Pascal compiler and development system by H. Schmepf, from Abacus Software. On disk for the C64. DOS protected. 30 day media warranty.

Super Pascal is a disk operating system that takes over the C-64. It even uses an entirely different disk format than does the Commodore DOS. It includes a development system that appears to support the full Pascal language, as well as a full text editor for producing source code. Super Pascal is not intended to tutor, and as a new user, I had to purchase an introductory Pascal programming manual. Super Pascal is, however, very well documented. Within a very short time, I had written, compiled, and run my first Pascal program. Super Pascal will operate with either a single or dual disk drive. Running with a single drive has some short comings in that the source program has to be transferred to the compiler disk, compiled, and then moved to a file disk.

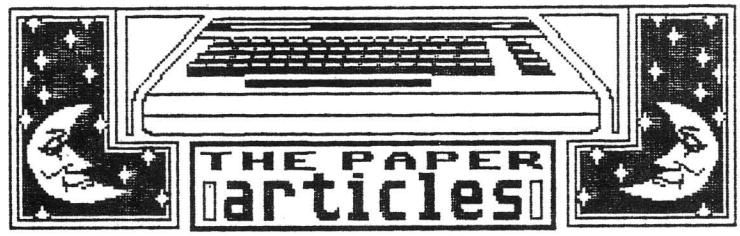
For the assembly language programmer, Super Pascal includes a full assembler as well as a compiler, and its design allows for mixing assembly language programming in Pascal source code as procedures (subroutines). The shortcomings of Super Pascal are minor, and if one wishes get involved in Pascal programming, this package is for you. Highly Rcommended. Ron Dale

VS64 COBOL: $49.95 COBOL compiler on disk for the C64. From Visionary Software. CP/M cartridge not required.

Any attempt to create any sort of implementation of COBOL for a 64K computer has to be admired, and this seems to be a good one. They have included most of the important and frequently used aspects of the language, but as far as using it for applications it leaves something to be desired.

COBOL is the most commonly used programming language in business today and the reason for it's success is it that it is SELF DOCUMENTING. Programs written by programmer A can easily changed as needed by programmer B. The programs themselves are broken down into four divisions: IDENTIFICATION, ENVIRONMENT, DATA and PROCEDURE. The IDENTIFICATION division states the name of the program and what the program does. The ENVIRONMENT division identifies what type of computer or operating system the program was written for (always C64 in this case). The DATA division explicitly defines all of the necessary variables (called fields in COBOL) the program uses. And the PROCEDURE division which contains the actual programming logic of the program.

If you are looking for a language to create applications that you will use over and over, I'd have to suggest some other alternative. But this COBOL system appears to be a good learning tool and if that is what you are looking for I Highly Recommend it. Steve McNamara.



PROGRAM LOAD ADDRESS FIX

Robert W. Baker
15 Windsor Drive
Atco, New Jersey 08004

Taking a Basic program created on an older PET or CBM system and loading it on a VIC-20, C-64, or C-128 is no sweat; each of the newer systems automatically relocates a Basic program when loading it into memory. That is, unless the load command has a comma-one (",1") at the end to tell Basic not to relocate the program. When a comma-one appears at the end of a load command, the program is loaded exactly where the default load address in the disk directory or tape file header points.

Taking Basic programs the other way isn't as easy; the older systems cannot relocate programs when being loaded and the comma-one has no meaning to the older versions of Basic. If you know where the program is going to load you can POKE a new address in the start of Basic pointer. Actually you normally only have to change the upper byte of the pointer since all the machines usually start Basic programs on an even memory page boundary. Thus, you only have to POKE a new value into location 41 to change the start of Basic.

Besides changing the starting address of Basic, you'll also have to POKE a zero value in the first byte of the starting page. Then issue a CLR command to reset all Basic pointers using the new start of Basic pointer value.

To make things easier, you might want to create one of the following one line programs. This first program will change the start of Basic for a program saved on a Commodore-64 system:

```
10 POKE41,8:POKE8*256,0:CLR
```

The second program will do the same for programs saved on a Commodore-128 system in C-128 mode:

```
10 POKE41,28:POKE28*256,0:CLR
```

Run the first program if you want to load a program that comes from a C64; run the second to load a program coming from the C128.

Your PET or CBM will be set up to allow loading, listing and running the program without any further changes. That is assuming the program uses normal Basic commands compatible with your older PET or CBM and printer.

The only fly in the ointment is the differing start of Basic addresses depending on various graphics modes on the newer systems. The C128 moves the start of Basic from $1C00 to $4000 when the program uses bit-mapped graphics. Thus, you may wind up with a program that uses some non-standard load address.

To cover all cases, you may want to use this simply utility program that fixes the load address of any program file on disk. It actually changes the load address stored in the program file on the disk to the default load address for the older PET and CBM systems. Once the address is changed, the Basic program can be loaded on any Commodore system. The load address will be correct for the older PET and CBM systems, while the program will be relocated correctly on the newer VIC-20, C-64 and C-128 systems. Just remember to not use the comma-one when loading 'fixed' programs on the newer systems. One other advantage to using this utility rather than changing the start of Basic pointer is the ability to load much larger

programs into the older systems. When you change the start of Basic pointer you lose a considerable amount of memory. If the program being loaded is large enough, it might not fit after the start of Basic has been changed on a PET or CBM system. By changing the actual load address in the program file, the program starts loading at the bottom of memory allowing you to load the largest possible program the system can actually handle.

To use the Load Address Fixer utility, run the program and insert the disk containing the program file to be fixed. It might be a good idea to use a backup copy on a different disk in case something goes wrong. When prompted for the filename, enter the exact name of the program file you want to be fixed. The program will then search the disk directory for the specified file and change the default load address to the proper value for the PET and CBM systems. For convenience, if you enter an asterisk (*) for the filename then ALL FILES on the disk will be fixed at the same time.

The program will run on all Commodore systems with 4040, 1541, or 1571 compatible disks. To make the program work on an 8050 drive, simply change the value of T from 18 to 39 in line 320 of the program. As usual, if you need a copy of this or any of my published programs on disk send $5 to cover costs and I'll send a copy of the requested program. I'll supply the disk, mailer and postage. Alternately, watch the new "Ask The Experts" section on Quantum-Link for down loadable copies of simple utilities like this.

POSTSCRIPT: Bob informed us of two errors in last month's issue, #29.

The first is in the "1571 Notes," page 35. If a 1571 is connected to a C64, the drive will default to 1541 single sided mode. The drive can be placed into double-sided 1571 mode by printing 'U0>M1' to the command channel.

The second error occurs in the "C128/1571 Hints" article, page 34. The program checks the mode of the computer by POKEing a 0 to location 65280 and then PEEKing the same location. This is a non-zero value in ROM on the C64. This location is not, however, an unused RAM location on the C128. Rather, 65820 is a byte in the Memory Management Unit that selects the bank. POKEing a 0 to this location sets the bank to 15. The program works like it is supposed to; the notes were just a little off.

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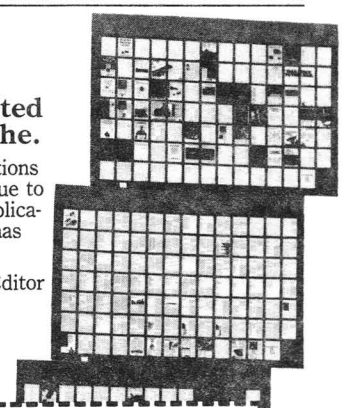

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```
100 rem       load address fixer
110 rem       by: robert w. baker
120 rem  15 windsor dr, atco, nj 08004
130 :
140 rem "q"=crsr down; "Q"=crsr up; "]"=crsr right; "}"=crsr left
160 rem "s"=home; "S"=clear home; "r"=reverse on; "R"=reverse off
180 :
190 print"Sqq  l o a d   a d d r e s s   f i x e rqq"
200 print"this program changes the load address"
210 print"of a program file saved on disk so it"
220 print"can be loaded into a pet or cbm system.qqq"
230 dim a$(256)
240 print"filename of program to be fixed:"
250 input"(*=all)]]].}}}";x$: if x$="." then end
260 if x$="*" then fl$=x$: goto 290
280 fl$=left$(x$+"                ",16):rem 16 shifted spaces
290 close 15: open 15,8,15,"i0": gosub 610
300 close 2: open 2,8,2,"#0": gosub 610
310 print"qok, searching disk directory...q":t=18:s=1:goto370
330 t=asc(a$(0)): s=asc(a$(1)):ift>0then370
350 if fl$="*" then 640
360 print"file not found!": goto 640
370 print#15,"u1:2,0,";t;s: gosub 610
380 for x=0 to 255: get#2,a$(x)
390 if a$(x)="" then a$(x)=chr$(0)
400 next x: for x=2 to 226 step 32
410 ft=asc(a$(x)) and 7: n$=""
420 l=asc(a$(x+28))+(asc(a$(x+29))*256)
430 if ft=0 or l=0 then 600
440 for y=3 to 18: n$=n$+a$(x+y): next y
450 if fl$<>"*" then 490
460 if ft<>2 then 600
470 if asc(a$(x)) > 128 then 530:goto600
490 if fl$<>n$ then 600
500 if ft<>2 then print"not a program file!": goto 640
510 if asc(a$(x)) > 128 then 530
520 print"file is not properly closed!": goto 640
530 print"updating: ";n$:t=asc(a$(x+1)):s=asc(a$(x+2))
550 print#15,"u1:2,0,";t;s: gosub 610
560 print#15,"b-p:2,2": gosub 610
570 print#2,chr$(1);chr$(4);
580 print#15,"u2:2,0,";t;s: gosub 610
590 if fl$<>"*" then 640
600 next x: goto 330
610 input#15,en,em$,et,es: if en=0 then return
620 print"qrdisk error:R";en;"  rtrk/sec:R";et;"/";es
630 print em$
640 close 2: close 15
```

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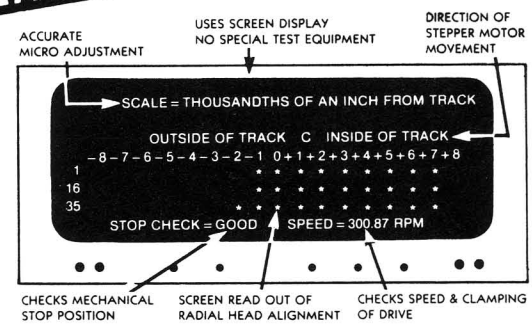

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